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CHEN, QING	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/696,828	LAURA, JOSEPH G.	
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20071009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the RCE filed on October 19, 2007.

2. **Claims 1-26** are pending.

3. **Claims 1, 6, 21, and 24** have been amended.

4. The objection to Claim 24 is withdrawn in view of Applicant's amendments to the claim.

5. The 35 U.S.C. § 112, first paragraph, rejections of Claims 6-26 are withdrawn in view of Applicant's arguments.

Response to Amendment

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 24-26** are rejected under 35 U.S.C. 102(e) as being anticipated by **US 7,007,278 (hereinafter "Gungabeesoon").**

As per **Claim 24**, Gungabeesoon discloses:

- reading, by a routine stored on a computer readable medium, information from a socket through a bit-level call to an operating system *(see Figure 6; Column 10: 62-66, "When*

the legacy application 122 reaches an I/O instruction, output data is sent as in step 632 to the application runtime component 430 of the computer's operating system which calls the Write_Data method as in 640a to redirect data to the application-side socket 626b."; Column 11: 13-18, "The input data is then forwarded to socket or queue 626a as in step 642c, to the other application socket or queue 626b and I/O buffers if any and to the application runtime component 430, and eventually to the legacy program 122 that was waiting on a Read_Data method 640b.");

- writing, by the routine, the information to an area *(see Column 4: 53-58, "Memory 102 is a random-access semiconductor memory for storing data and programs ... Operating system 120 and applications 122 reside in memory 102.")*; and

- reading, by a COBOL program stored on a computer readable medium, the information from the area, the COBOL program and the routine operating in the same runtime environment *(see Figure 1: 122; Figure 6; Column 4: 53-58, "Memory 102 is a random-access semiconductor memory for storing data and programs ... Operating system 120 and applications 122 reside in memory 102."; Column 11: 23-27, "... it is to be understood that the architecture but could also support legacy applications written in COBOL ...")*.

As per **Claim 25**, the rejection of **Claim 24** is incorporated; and Gungabeesoon further discloses:

- wherein the area is a file *(see Column 11: 2-7, "The network page is populated with data from the data object as in step 652 ...")*.

As per **Claim 26**, the rejection of **Claim 24** is incorporated; and Gungabeesoon further discloses:

- wherein the area is a memory area *(see Figure 1: 102)*.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 1-11 and 17-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gungabeesoon** in view of **US 5,721,876 (hereinafter "Yu")**.

As per **Claim 1**, Gungabeesoon discloses:

- a memory block *(see Figure 1: 102)*;
- a COBOL program communicating with the memory block *(see Figure 1: 122; Column 11: 23-27, "... it is to be understood that the architecture but could also support legacy applications written in COBOL ...")*;
- a socket *(see Figure 6: 626A and 626B)*; and
- a COBOL routine writes information read from the socket to the memory block in response to a COBOL program call *(see Figure 6; Column 4: 53-58, "Operating system 120 and applications 122 reside in memory 102."; Column 11: 13-18, "The input data is then forwarded*

to socket or queue 626a as in step 642c, to the other application socket or queue 626b and I/O buffers if any and to the application runtime component 430, and eventually to the legacy program 122 that was waiting on a Read_Data method 640b.").

However, Gungabeesoon does not disclose:

- a COBOL routine callable from the COBOL program, the COBOL routine reads information from the socket, wherein the COBOL routine reads the information from the socket through a bit-level call to an operating system.

Yu discloses:

- a socket routine callable from a program, the socket routine reads information from the socket, wherein the socket routine reads the information from the socket through a bit-level call to an operating system *(see Figure 2: 200; Column 8: 12-15, "In using the socket interface, an application program invokes a socket function (block 200) which is typically processed as indicated in FIG. 2."; Column 7: 18-23, "... the kernel/operating system level 64 further includes as an interprocess communications facility, an implementation of "sockets" which includes a host sockets library 97 for storing a plurality of socket subroutines and network library subroutines and a TCP/IP network protocol stack facility 99 arranged as shown.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include a socket routine callable from a program, the socket routine reads information from the socket, wherein the socket routine reads the information from the socket through a bit-level call to an operating system. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Gungabeesoon further discloses:

- wherein the COBOL program further communicates with the COBOL routine to initiate the COBOL routine communication with the socket and the memory block *(see Figure 6; Column 11: 8-10, "Subsequent interactions between the client interface on the network user agent 570 and the application 122 flows through the socket connections 626a and 626b.").*

As per **Claim 3**, the rejection of **Claim 1** is incorporated; however, Gungabeesoon does not disclose:

- wherein the COBOL routine is further defined as a subroutine of the COBOL program.

Yu discloses:

- wherein the COBOL routine is further defined as a subroutine of the COBOL program *(see Figure 2: 200; Column 8: 12-15, "In using the socket interface, an application program invokes a socket function (block 200) which is typically processed as indicated in FIG. 2.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein the COBOL routine is further defined as a subroutine of the COBOL program. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and Gungabeesoon further discloses:

- wherein the COBOL routine is further defined as a COBOL library having a plurality of routines callable by the COBOL program.

Yu discloses:

- wherein the COBOL routine is further defined as a COBOL library having a plurality of routines callable by the COBOL program *(see Figure 2: 200; Column 8: 15-17, "... the application program 22 invokes the socket function by issuing a socket library call which is directed to socket library 286.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein the COBOL routine is further defined as a COBOL library having a plurality of routines callable by the COBOL program. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 5**, the rejection of **Claim 1** is incorporated; and Gungabeesoon further discloses:

- wherein the COBOL routine is further defined as a compiler enabled function usable by the COBOL program *(see Column 8: 14-17, "Each legacy application 122 has data 422 to be input/output to/from the application runtime operating system 430 according to the program I/O code 410 through the compiler runtime 420.")*.

As per **Claim 6**, Gungabeesoon discloses:

- requesting, by a COBOL program stored on a computer readable medium, information from a socket *(see Column 11: 13-18, "The input data is then forwarded to socket or queue 626a as in step 642c, to the other application socket or queue 626b and I/O buffers if any and to the application runtime component 430, and eventually to the legacy program 122 that was waiting on a Read_Data method 640b.")*;

- writing, by the COBOL routine, information read from the socket to a memory block *(see Column 4: 53-58, "Memory 102 is a random-access semiconductor memory for storing data and programs ... Operating system 120 and applications 122 reside in memory 102.")*; and

- reading from the memory block, by the COBOL program, the information *(see Column 4: 53-58, "Memory 102 is a random-access semiconductor memory for storing data and programs ... Operating system 120 and applications 122 reside in memory 102.")*.

However, Gungabeesoon does not disclose:

- retrieving, by a COBOL routine stored on a computer readable medium, information from the socket through a bit-level call to an operating system.

Yu discloses:

- retrieving, by a socket routine stored on a computer readable medium, information from the socket through a bit-level call to an operating system *(see Figure 2: 200; Column 8: 12-15, "In using the socket interface, an application program invokes a socket function (block 200) which is typically processed as indicated in FIG. 2."; Column 7: 18-23, "... the kernel/operating system level 64 further includes as an interprocess communications facility, an implementation*

of "sockets" which includes a host sockets library 97 for storing a plurality of socket subroutines and network library subroutines and a TCP/IP network protocol stack facility 99 arranged as shown.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include retrieving, by a socket routine stored on a computer readable medium, information from the socket through a bit-level call to an operating system. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 7**, the rejection of **Claim 6** is incorporated; however, Gungabeesoon does not disclose:

- managing, by the COBOL routine, a connection with the socket.

Yu discloses:

- managing, by the COBOL routine, a connection with the socket *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include managing, by the COBOL routine, a connection with the socket. The modification would

be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 8**, the rejection of **Claim 7** is incorporated; however, Gungabeesoon does not disclose:

- wherein managing includes listening on the socket connection.

Yu discloses:

- wherein managing includes listening on the socket connection *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein managing includes listening on the socket connection. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 9**, the rejection of **Claim 7** is incorporated; however, Gungabeesoon does not disclose:

- wherein managing includes disconnecting the connection with the socket.

Yu discloses:

- wherein managing includes disconnecting the connection with the socket *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein managing includes disconnecting the connection with the socket. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 10**, the rejection of **Claim 6** is incorporated; however, Gungabeesoon does not disclose:

- establishing, by the COBOL routine, a connection with the socket.

Yu discloses:

- establishing, by the COBOL routine, a connection with the socket *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to

include establishing, by the COBOL routine, a connection with the socket. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 11**, the rejection of **Claim 10** is incorporated; however, Gungabeesoon does not disclose:

- wherein the connection with the socket is established in response to a request from the COBOL program.

Yu discloses:

- wherein the connection with the socket is established in response to a request from the COBOL program *(see Figure 2: 200; Column 8: 12-15, "In using the socket interface, an application program invokes a socket function (block 200) which is typically processed as indicated in FIG. 2.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein the connection with the socket is established in response to a request from the COBOL program. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 17**, the rejection of **Claim 6** is incorporated; however, Gungabeesoon does not disclose:

- wherein the COBOL routine further includes a coordination module to coordinate such that the COBOL routine only reads when the socket has information and only writes when the socket is not full.

Yu discloses:

- wherein the COBOL routine further includes a coordination module to coordinate such that the COBOL routine only reads when the socket has information and only writes when the socket is not full *(see Column 12: 26-29, "The application program uses the accepted socket to read and write data to and from the socket which connected to this socket and is not used to accept more connections.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein the COBOL routine further includes a coordination module to coordinate such that the COBOL routine only reads when the socket has information and only writes when the socket is not full. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 18**, the rejection of **Claim 6** is incorporated; however, Gungabeesoon does not disclose:

- initiating a call to the operating system by the COBOL routine to establish a socket connection.

Yu discloses:

- initiating a call to the operating system by the COBOL routine to establish a socket connection *(see Column 7: 18-23, "... the kernel/operating system level 64 further includes as an interprocess communications facility, an implementation of "sockets" which includes a host sockets library 97 for storing a plurality of socket subroutines and network library subroutines and a TCP/IP network protocol stack facility 99 arranged as shown.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include initiating a call to the operating system by the COBOL routine to establish a socket connection. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 19**, the rejection of **Claim 18** is incorporated; however, Gungabeesoon does not disclose:

- wherein the call to the operating system is further defined as a bit-level call to the operating system of a mainframe computer system.

Yu discloses:

- wherein the call to the operating system is further defined as a bit-level call to the operating system of a mainframe computer system *(see Column 7: 18-23, "... the kernel/operating system level 64 further includes as an interprocess communications facility, an implementation of "sockets" which includes a host sockets library 97 for storing a plurality of socket subroutines and network library subroutines and a TCP/IP network protocol stack facility 99 arranged as shown.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include wherein the call to the operating system is further defined as a bit-level call to the operating system of a mainframe computer system. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a socket.

As per **Claim 20**, the rejection of **Claim 19** is incorporated; and Gungabeesoon further discloses:

- wherein the COBOL routine is further defined as written in COBOL programming language *(see Figure 1: 122; Column 11: 23-27, "... it is to be understood that the architecture but could also support legacy applications written in COBOL ...")*.

As per **Claim 21**, Gungabeesoon discloses:

- a memory block *(see Figure 1: 102)*;

- a COBOL program stored on a computer readable medium communicating with the memory block *(see Figure 1: 122; Column 11: 23-27, "... it is to be understood that the architecture but could also support legacy applications written in COBOL ...")*; and

- a COBOL routine writes information to the memory block in response to a COBOL program call *(see Figure 6; Column 4: 53-58, "Operating system 120 and applications 122 reside in memory 102."; Column 11: 13-18, "The input data is then forwarded to socket or queue 626a as in step 642c, to the other application socket or queue 626b and I/O buffers if any*

and to the application runtime component 430, and eventually to the legacy program 122 that was waiting on a Read_Data method 640b.").

However, Gungabeesoon does not disclose:

- a pipe; and

- a COBOL routine stored on a computer readable medium callable from the COBOL program, the COBOL routine reads information from the pipe, wherein the COBOL routine reads the information from the pipe through a bit-level call to an operating system.

Yu discloses:

- a pipe *(see Column 16: 4-9, "The kernel 70 opens up a PIPE and returns read and write file descriptors to communicate with the child process.")*; and

- a pipe routine stored on a computer readable medium callable from a program, the pipe routine reads information from the pipe, wherein the pipe routine reads the information from the pipe through a bit-level call to an operating system *(see Column 16: 4-9, "... the socket server process 98 creates an interprocess communications (IPC) channel for use with the later spawned child process by issuing a pipe system call (pipe(pipefd)) to the kernel 70. The kernel 70 opens up a PIPE and returns read and write file descriptors to communicate with the child process.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include a pipe; and a pipe routine stored on a computer readable medium callable from a program, the pipe routine reads information from the pipe, wherein the pipe routine reads the information from the pipe through a bit-level call to an operating system. The modification

would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a pipe.

As per **Claim 22**, the rejection of **Claim 21** is incorporated; and Gungabeesoon further discloses:

- wherein the memory block is further defined as a mainframe memory block and wherein the COBOL program and the COBOL routine are operable on a mainframe computer system *(see Figure 2: 202; Figure 6; Column 5: 45-46, "FIG. 2 is an example of a network server 200 which may access a legacy application stored on the computer 100.").*

As per **Claim 23**, the rejection of **Claim 22** is incorporated; however, Gungabeesoon does not disclose:

- a create module communicating with a computer system to create a pipe connection;
- a connect module that promotes attachment to the pipe connection;
- an open module that opens the pipe connection to promote communication via the pipe connection;
- a write module that writes information to the pipe connection, the write module verifies that the pipe connection is not full prior to writing information and blocks when the pipe connection is full;
- a read module coupleable to the pipe connection to read information from the pipe connection;
- a release module to release the pipe connection;

- a remove module to remove the pipe connection from the computer system; and

- a delete module to delete the pipe connection wherein the pipe connection is closed.

Yu discloses:

- a create module communicating with a computer system to create a pipe connection *(see Figure 2: 200; Column 8: 12-15, "In using the socket interface, an application program invokes a socket function (block 200) which is typically processed as indicated in FIG. 2.")*;

- a connect module that promotes attachment to the pipe connection *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.")*;

- an open module that opens the pipe connection to promote communication via the pipe connection *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.")*;

- a write module that writes information to the pipe connection, the write module verifies that the pipe connection is not full prior to writing information and blocks when the pipe connection is full *(see Column 12: 26-29, "The application program uses the accepted socket to read and write data to and from the socket which connected to this socket and is not used to accept more connections.")*;

- a read module coupleable to the pipe connection to read information from the pipe connection *(see Column 12: 26-29, "The application program uses the accepted socket to read and write data to and from the socket which connected to this socket and is not used to accept more connections.")*;

- a release module to release the pipe connection *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.")*;

- a remove module to remove the pipe connection from the computer system *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.")*; and

- a delete module to delete the pipe connection wherein the pipe connection is closed *(see Column 16: 56-61, "The other i/o socket functions not described (e.g. bind, listen, close, send, etc.) are processed in a manner similar to the above described socket functions. It will be appreciated that the non-blocking bind and listen socket functions typically are processed by server process 98 since they do not require a substantial amount of time to process.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yu into the teaching of Gungabeesoon to include a create module communicating with a computer system to create a pipe connection; a

connect module that promotes attachment to the pipe connection; an open module that opens the pipe connection to promote communication via the pipe connection; a write module that writes information to the pipe connection, the write module verifies that the pipe connection is not full prior to writing information and blocks when the pipe connection is full; a read module coupleable to the pipe connection to read information from the pipe connection; a release module to release the pipe connection; a remove module to remove the pipe connection from the computer system; and a delete module to delete the pipe connection wherein the pipe connection is closed. The modification would be obvious because one of ordinary skill in the art would be motivated to access data transmitted using a pipe.

10. **Claims 12-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gungabeesoon** in view of **Yu** as applied to Claim 6 above, and further in view of **US 6,931,623 (hereinafter "Vermeire")**.

As per **Claim 12**, the rejection of **Claim 6** is incorporated; however, Gungabeesoon and Yu do not disclose:

- wherein the COBOL routine provides an address to the COBOL program, the address identifying a location of the memory block where the information is written.

Vermeire discloses:

- wherein the COBOL routine provides an address to the COBOL program, the address identifying a location of the memory block where the information is written *(see Column 4: 35-44, "... a reference to the binary data contained within the record layout at the time the*

programming call to read or write data. The reference to the binary data is most likely a memory address (a "pointer") as implemented in most programming languages.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Vermeire into the teaching of Gungabeesoon to include wherein the COBOL routine provides an address to the COBOL program, the address identifying a location of the memory block where the information is written. The modification would be obvious because one of ordinary skill in the art would be motivated to locate data in memory.

As per **Claim 13**, the rejection of **Claim 12** is incorporated; however, Gungabeesoon and Yu do not disclose:

- mapping, by the COBOL program, the memory block into the COBOL program.

Vermeire discloses:

- mapping, by the COBOL program, the memory block into the COBOL program *(see Column 6: 43-55, "An existing COBOL copybook, an example of which is shown in FIG. 3, or a PL/I record definition in the source code of an existing legacy application are examples of a source record definition." and "The source record definition is processed by a lexical analyzer FIG. 2 capable of translating the language-specific representation of a record layout into a language-neutral and computer-architecture neutral representation of the data layout ("metadata"). This metadata is stored on a persistent storage medium 35 of FIG. 12 and accessed and managed via the workbench.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Vermeire into the teaching of Gungabeesoon to include mapping, by the COBOL program, the memory block into the COBOL program. The modification would be obvious because one of ordinary skill in the art would be motivated to locate data in memory.

As per **Claim 14**, the rejection of **Claim 13** is incorporated; however, Gungabeesoon and Yu do not disclose:

- wherein the mapping is accomplished using a copybook.

Vermeire discloses:

- wherein the mapping is accomplished using a copybook *(see Column 6: 43-55, "An existing COBOL copybook, an example of which is shown in FIG. 3, or a PL/I record definition in the source code of an existing legacy application are examples of a source record definition.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Vermeire into the teaching of Gungabeesoon to include wherein the mapping is accomplished using a copybook. The modification would be obvious because one of ordinary skill in the art would be motivated to describe the physical layout of data.

11. **Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gungabeesoon** in view of **Yu** as applied to Claim 6 above, and further in view of **US 5,745,748 (hereinafter "Ahmad")**.

As per **Claim 15**, the rejection of **Claim 6** is incorporated; however, Gungabeesoon and Yu do not disclose:

- wherein the information is provided in an EBCDIC format and wherein the method further comprises converting the information from the EBCDIC format to an ASCII format.

Ahmad discloses:

- wherein the information is provided in an EBCDIC format and wherein the method further comprises converting the information from the EBCDIC format to an ASCII format *(see Column 3: 18-21, "... if the data to be downloaded are in the EBCDIC format, as is common for mainframe computers, it must often be converted to the ASCII format for PC storage or use.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ahmad into the teaching of Gungabeesoon to include wherein the information is provided in an EBCDIC format and wherein the method further comprises converting the information from the EBCDIC format to an ASCII format. The modification would be obvious because one of ordinary skill in the art would be motivated to store or use the information in a PC *(see Ahmad – Column 3: 18-21)*.

As per **Claim 16**, the rejection of **Claim 15** is incorporated; however, Gungabeesoon and Yu do not disclose:

- wherein the conversion is accomplished by the COBOL routine.

Ahmad discloses:

- wherein the conversion is accomplished by the COBOL routine *(see Column 3: 52-56, "... a system and method were needed to enable a mainframe-class application program under development in a PC-based COBOL development system to directly access data on a mainframe computer to which the PC was electronically linked.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ahmad into the teaching of Gungabeesoon to include wherein the conversion is accomplished by the COBOL routine. The modification would be obvious because one of ordinary skill in the art would be motivated to perform the conversion to allow access to mainframe computer data *(see Ahmad – Column 3: 18-21).*

Response to Arguments

12. Applicant's arguments with respect to Claims 1, 6, and 21 have been considered, but are moot in view of the new ground(s) of rejection.

In the remarks, Applicant argues that:

a) The cited portion of Gungabeesoon does not disclose that the I/O instruction of the legacy application calls the operating system. Rather, as discussed in detail above and disclosed in the cited portion of Gungabeesoon, the legacy application simply waits for the operating system to forward data to it. Gungabeesoon discloses in column 8, lines 32-35, "Input data follows the reverse path: the application runtime 430 extracts the input data from the inbound data stream,

formats the data which is then submitted to the application as user input data." Therefore the legacy application does not call the operating system. Rather, the operating system submits the data received from the socket to the legacy application which was waiting on an input instruction.

Examiner's response:

a) Examiner disagrees. Gungabeesoon clearly discloses reading, by a routine stored on a computer readable medium, information from a socket through a bit-level call to an operating system *(see Figure 6; Column 10: 62-66, "When the legacy application 122 reaches an I/O instruction, output data is sent as in step 632 to the application runtime component 430 of the computer's operating system which calls the Write_Data method as in 640a to redirect data to the application-side socket 626b."; Column 11: 13-18, "The input data is then forwarded to socket or queue 626a as in step 642c, to the other application socket or queue 626b and I/O buffers if any and to the application runtime component 430, and eventually to the legacy program 122 that was waiting on a Read_Data method 640b.")*. Note that the input data is forwarded from the socket to the Read_Data method (reading, by a routine ..., information from a socket), then the data is forwarded to the operating system application runtime and ultimately to the legacy program. Prior to receiving the input data from the network server process, the legacy program first sends the output data to the operating system application runtime (a bit-level call to an operating system).

In the remarks, Applicant argues that:

b) While Gungabeesoon similarly discloses in column 9, lines 38-40 that the legacy application 122 is unaware of any changes in its native environment, Gungabeesoon does not disclose any bit-level calls to the operating system as required by the claims. Rather, as discussed in detail above, the operating system encapsulates the legacy application 122 such that it is unaware of any changes to its native environment. That is, data is directed to/from the legacy application 122 under control of the operating system.

Examiner's response:

b) Regarding Applicant's arguments of "bit-level calls" relating to subject matter from the specification, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The claims recite only "a bit-level call" with no further clarification on the claim scope of the term "bit-level" as intended by the Applicant to cover. Thus, as the claims are interpreted as broadly as their terms reasonably allow (see MPEP § 2111.01 I), the interpretation of a broad limitation of "a bit-level call to an operating system" as interfacing with an operating system and the like by one of ordinary skill in the art is considered to be reasonable by its plain meaning.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WEI ZHEN
SUPERVISORY PATENT EXAM

QC
December 16, 2007